Claim #	Exemplary Support in Specification
32	page 13, lines 7-8; page 12, lines 17-23; Example 4
33	page 13, lines 25-28; page 12, lines 17-23
34	page 13, line 29, through page 30, line 14; page 12, lines 17-23
35	page 10, lines 21-24
36	page 10, lines 21-24
37	Example 4
38	Example 4
39	page 14, lines 5-6
40	page 14, lines 5-6
41	page 26, lines 21-22
42	page 13, lines 29-31
43	page 13, lines 25-28; page 12, lines 17-23
44	Example 4

Claim Objections

Claim 21 is objected to by the Examiner for allegedly failing to limit the subject matter of a previous claim. Applicants have canceled claim 21, thus rendering the present objection moot. The cancellation of claims does not constitute acquiescence in the propriety of any rejection set forth by the Examiner.

Claim Rejections - 35 U.S.C. § 112, First Paragraph

Claims 14, 17-18 and 29-30 are rejected by the Examiner under 35 U.S.C. § 112, first paragraph, for lack of enablement. The Examiner asserts that the specification fails to provide an enabling disclosure for sorting hybrid cells without using fluorescent dye staining. Applicants have canceled claims 14, 17-18 and 29-30, thus rendering the rejection of these claims moot. The cancellation of claims does not constitute acquiescence in the propriety of any rejection set forth by the Examiner.

With respect to the newly added claims, Applicants note that a person of ordinary skill in the art, using techniques that are well known to those of skill in the art, would be able to

sort hybrid cells without using fluorescent dye staining (and without using antibiotic or metabolic selection). For example, the combination of flow cytometry with other labeling strategies (e.g. the use of magnetic microbeads ("MACS"), or measurement of optical properties related to cell size, or intracellular density, etc.) is well known to those of skill in the art.

Claim Rejections - 35 U.S.C. § 103

A. Obviousness Rejection over Gong et al. and Koolwijk et al., as evidenced by Abbas et al.

Claims 14, 15, 17-19 and 29-31 are rejected by the Examiner under 35 U.S.C. § 103 as being unpatentable over Gong et al. and Koolwijk et al., as evidenced by Abbas et al. The Examiner reasons that the present invention is obvious over the cited references because Gong et al. teach fusing dendritic cells with tumor cells and Koolwijk et al. teach a method of preparing and purifying hybrid cells involving contacting a first cell with a green fluorescent dye, contacting a second cell with a red fluorescent dye, bringing the cells in contact and fusing the cells with PEG 4000. The Examiner relies upon Abbas et al. to show that the resting dendritic cells used by Gong et al. lack an accessory factor required to generate an immune response.

Applicants have canceled claims 14, 15, 17-19 and 29-31, thus rendering the rejection of these claims moot. The cancellation of claims does not constitute acquiescence in the propriety of any rejection set forth by the Examiner.

B. Obviousness Rejection Over Koolwijk et al. and Gong et al. in view of Horen et al. and Deka et al.

Claims 14, 15, 17-22 and 29-31 are rejected by the Examiner under 35 U.S.C. § 103 as being unpatentable over Koolwijk et al. and Gong et al. in view of Horen et al. and Deka et al. The Examiner reasons that the present invention is obvious over the cited references because of the reasons discussed above and because Horen et al. teach long chain cyanine dyes and Deta et al. teach that cyanine dyes could be used for distinguishing between difference cell populations.

Applicants have canceled claims 14, 15, 17-19 and 29-31, thus rendering the rejection of these claims moot. The cancellation of claims does not constitute acquiescence in the propriety of any rejection set forth by the Examiner.

Newly Added Claims 32-44

Newly added claims 32-44 are free of the cited art. For example, the present claims are directed to a method of preparing a cancer vaccine, a method for preparing a formulation for treating a disorder associated with a pathogenic organism, and a method of preparing a formulation for tolerizing an immune system against a target cell. None of the cited art references teach or suggest the presently claimed methods.

Additionally, the present claims require that the diversity of the starting cell population is preserved in the resultant hybrid cell population. Although Gong et al. discloses fusion of a dendritic cell and a tumor cell, a person of ordinary skill in the art would not have thought to combine the teachings of Gong et al. with Koolwijk et al. in order to successfully arrive at the present invention because a person of ordinary skill in the art would know that the method of Gong et al. does not maintain the diversity starting cell sub-populations.

As discussed in Applicants' amendment dated October 24, 2002, a feature of the present invention is that the heterogeneity/diversity of the starting cell population is preserved in the hybrid cells. While the relevance of this feature can be explained by way of example, this feature applies to all embodiments of the present invention. For example, in the embodiment wherein the resultant population of hybrid cells is a vaccine for treating tumors, one of the cells in the hybrid cell (the "target" cell) is a tumor cell and the second cell is a different type of cell, such as an antigen presenting cell. It is well known in the art that a tumor is often comprised of heterogeneous sub-populations of cells. Maintaining this heterogeneity in the population of hybrid cells that results from the fusion of the tumor cells with the second cells is important. If a vaccine is administered wherein only a fraction of the sub-populations of tumor cells are represented, an immune response will only be triggered against the represented types of tumor cells. The sub-populations of tumor cells not

represented in the vaccine grow stronger and multiply faster. To prevent such an outcome, it is important to maintain the heterogeneity/diversity of tumor cells used as starting material in the population of hybrid cells used as a vaccine.

Classical selection methods, such as those involving the use of antibiotic or metabolic selection, fail to preserve the heterogeneity/diversity of starting material cells because some of the sub-populations of starting material cells are eliminated by the selection step. Therefore, purification methods involving the use of antibiotic or metabolic selection are not suitable for the present invention.

CONCLUSION

As the above-presented amendments and remarks address and overcome all of the rejections presented by the Examiner, withdrawal of the rejections and allowance of the claims are respectfully requested.

If the Examiner has any questions concerning this application, he or she is requested to contact the undersigned.

Respectfully submitted,

Date 18 April 2003

By _____

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